

What Is Claimed Is:

1. A method for producing an antibody or antibody fragment comprising:

a) transforming a thioredoxin reductase-deficient *E. coli* strain with a nucleotide molecule encoding said antibody or antibody fragment;

b) culturing said transformed *E. coli* strain to allow for expression of said antibody or antibody fragment; and

c) isolating said antibody or antibody fragment from the cytoplasm of said transformed *E. coli*.

2. A method according to claim 1, wherein said antibody fragment is selected from the group consisting of an Fab fragment, an Fv fragment, an sFv fragment and an F(ab')₂ fragment.

3. A method according to claim 1, wherein said antibody is a humanized antibody.

4. A method for producing a fusion protein comprising an antibody or antibody fragment and an enzyme, said method comprising:

a) transforming a thioredoxin reductase-deficient *E. coli* strain with a nucleotide molecule encoding said fusion protein;

b) culturing said transformed *E. coli* strain to allow for expression of said fusion polypeptide; and

c) isolating said fusion polypeptide from the cytoplasm of said transformed *E. coli*.

5. A method according to claim 4, wherein said antibody fragment is selected from the group consisting of an Fab fragment, an Fv fragment, an sFv fragment and an F(ab')₂ fragment.

6. A method according to claim 4, wherein said antibody is a humanized antibody.

7. A method according to claim 4, wherein said antibody or antibody fragment binds specifically to tumor cells.

8. A method according to claim 4, wherein said enzyme is capable of cleaving a nontoxic prodrug to produce a toxic drug.

9. A method according to claim 8, wherein said enzyme is a human cytoplasmic enzyme.

10. A method according to claim 4, wherein said antibody or antibody fragment binds specifically to tumor cells and wherein said enzyme is capable of cleaving a nontoxic prodrug to produce a toxic drug.

11. A method according to claim 10, wherein the antibody is a humanized antibody and wherein said enzyme is a human cytoplasmic enzyme.

12. A method according to claim 4 wherein said enzyme is *E. coli* β -glucuronidase.

13. A method according to claim 12, wherein said antibody fragment is an Fab fragment.

14. A method according to claim 13, wherein said fusion protein is the fusion protein encoded by the vector pTrc99 dicistr. Fab-*E.coli*- β -Gluc.

15. A fusion protein produced according to the method of claim 4.

16. A fusion polypeptide comprising an antibody or antibody fragment and the enzyme *E. coli* β -glucuronidase.

17. A nucleotide sequence encoding a fusion protein according to claim 16.

18. A nucleotide sequence according to claim 16, wherein said nucleotide sequence encodes the amino acid sequence in Figure 5 which begins at nucleotide number 666 and ends at nucleotide number 3165.

19. A nucleotide sequence according to claim 16 wherein said sequence is the nucleotide sequence in Figure 5 which begins at nucleotide number 666 and ends at nucleotide number 3162.

20. A vector comprising a nucleotide sequence according to claim 17.

21. A vector comprising a nucleotide sequence according to claim 18.

22. A vector comprising a nucleotide sequence according to claim 19.

23. The vector pTrc99 dicistr. Fab-*E.coli*- β -Gluc.